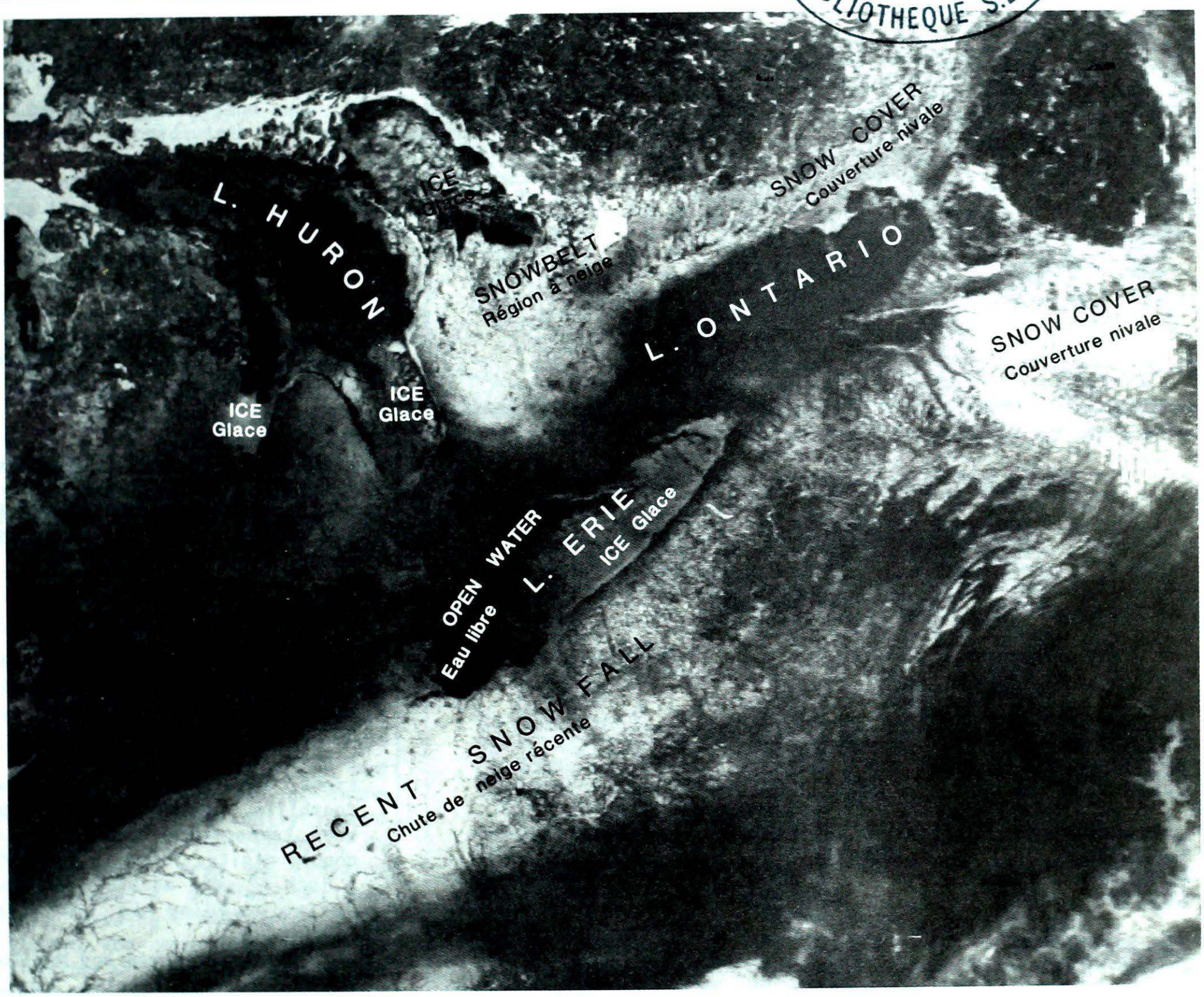
Environment Canada | Environnement Canada

Climatic Perspectives

March 1 to 7, 1988 | *A weekly review of canadian climate* | *Vol. 10 No 10*

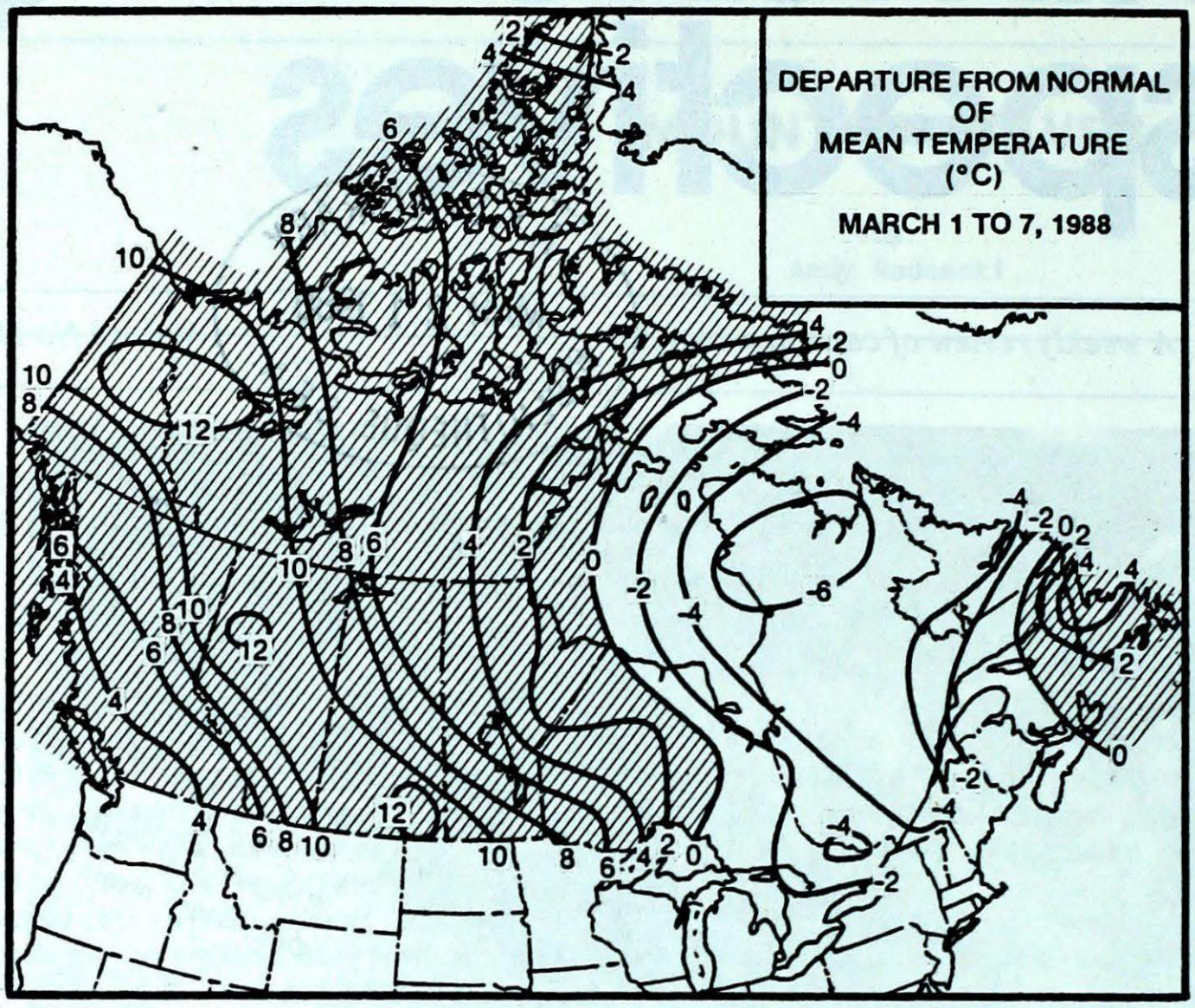


This NOAA-10 visual satellite photo of March 3, 1988, shows the distribution of snow across the lower Great Lakes region. Also visible is the ice covering Georgian Bay and portions of Lake Erie ans Lake Huron. See page 3 for more details.

- **Drought concern in the West**
- **Ideal weather for Maple Syrup**

Canada

TEMPERATURE



WEEKLY TEMPERATURE EXTREME (C)

	MAXIMUM		MINIMUM	
BRITISH COLUMBIA	LYTTON	13	DEASE LAKE	-17
YUKON TERRITORY	WHITEHORSE	5	SHINGLE POINT A	-28
NORTHWEST TERRITORIES	FORT SIMPSON	7	EUREKA	-43
ALBERTA	MEDICINE HAT	11	FORT CHIPEWYAN	-27
SASKATCHEWAN	ESTEVAN	13	CREE LAKE	-32
MANITOBA	WINNIPEG INT'L	11	CHURCHILL	-34
ONTARIO	LONDON	15	TIMMINS	-35
QUEBEC	MONT JOLI	7	BORDER	-40
NEW BRUNSWICK	FREDERICTON	8	FREDERICTON	-20
NOVA SCOTIA	SHELBURNE	10	AMHERST	-14
PRINCE EDWARD ISLAND	SUMMERSIDE	3	SUMMERSIDE	-18
NEWFOUNDLAND	ST JOHN'S	11	CHURCHILL FALLS	-32

ACROSS THE NATION

WARMEST MEAN TEMPERATURE	7	VANCOUVER INT'L BC
COOLEST MEAN TEMPERATURE	-35	SHEPHERD BAY A NWT

ACROSS THE COUNTRY

Yukon and Northwest Territories

A southwesterly circulation pushed record mild air into the western Arctic. A controlling ridge of high pressure gave very little in the way of precipitation to the Territories. A low pressure system produced blizzard conditions over Baffin Island.

British Columbia

An onshore flow pushed active frontal disturbances towards the coast, and as a result, the weather was dull and damp. The central coastline received the most precipitation. The Kootenays, in the south-east corner, got 20 cm of snow. In the interior, log hauling is now a night-time operation. There are major concerns about last years drought in southern B.C. intensifying. Ground water levels are still very low, and the snow pack in the mountains is only 60 to 90 percent of normal. The same areas that were in need of moisture last year, east of the coastal mountains and across the southern interior, continue to be dry again this year.

Prairie Provinces

A Pacific weather system spread precipitation over the Rockies, and into Alberta. Freezing rain fell in the Peace River district, while higher elevations received snow. Light snow covered the southern foothills, which melted rapidly, when temperatures rebounded to the double digits. There is concern that a lack of soil moisture will affect spring seeding in east-central Alberta.

In Saskatchewan and Manitoba it was a fairly settled week. The period began with maximum temperatures hovering near freezing and minimal amounts of precipitation. Temperatures in the north remained cold, but a ridge of high pressure, which built eastwards during the mid-week, induced another surge of warm air into the agricultural districts. Temperatures for the weekend climbed to daily record high levels, depleting most of the remaining snow cover in the south.

PRECIPITATION

Ontario

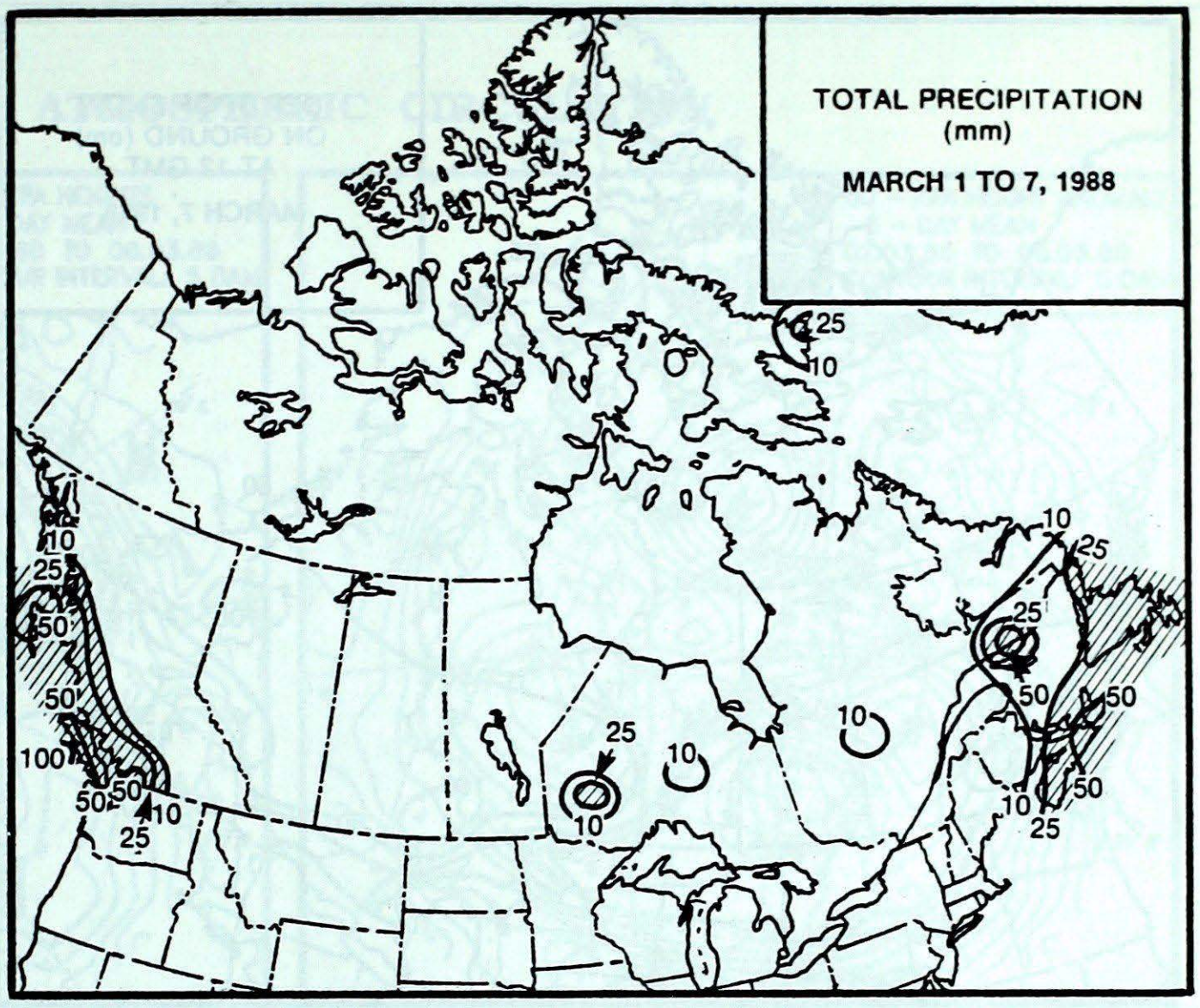
March began on a cool, but pleasant note. A few daily record low temperatures were broken in northern Ontario on March 1. Two weather systems gave snow to the north, adding to the already substantial snow cover. In northeastern Ontario, the depth of snow on the ground is more than 100 cm. Snowfalls were minimal in southern Ontario. Bright sunny days and cool nights were beneficial to the maple syrup industry. The weekend was pleasantly spring-like.

Quebec

A disturbance crossing the Gulf of St. Lawrence brought heavy precipitation to the north coast on March 1 and 2. Natashquan received 40.8 mm of rain. For the remainder of the week, a large area of high pressure dominated the weather picture, giving ample amounts of sunshine, but cool temperatures. Maple syrup production has started in the Eastern Townships. The weather was ideal for outdoor winter sports.

Atlantic Provinces

Several low pressure systems tracked through the region, giving alternating periods of cloud and sun. Periods of freezing rain fell in Nova Scotia, Newfoundland and Labrador on March 2 and 3. There were a number of new daily record high rainfalls set in Labrador. On Friday, another area of freezing rain covered a portion of Nova Scotia, causing treacherous road conditions and one death. Ten to 20 centimetres of snow fell across the western half of Nova Scotia and in New Brunswick. Newfoundland received a mixed bag of precipitation; 36 cm of snow covered the north, while 25 mm of rain fell in the south. On the Island, temperatures during the week reached the double digits, and fog was a common occurrence. The temperature at St. John's soared to a record 11°C, on the 5th, and a 23 mm rainfall the same day set a new daily record.



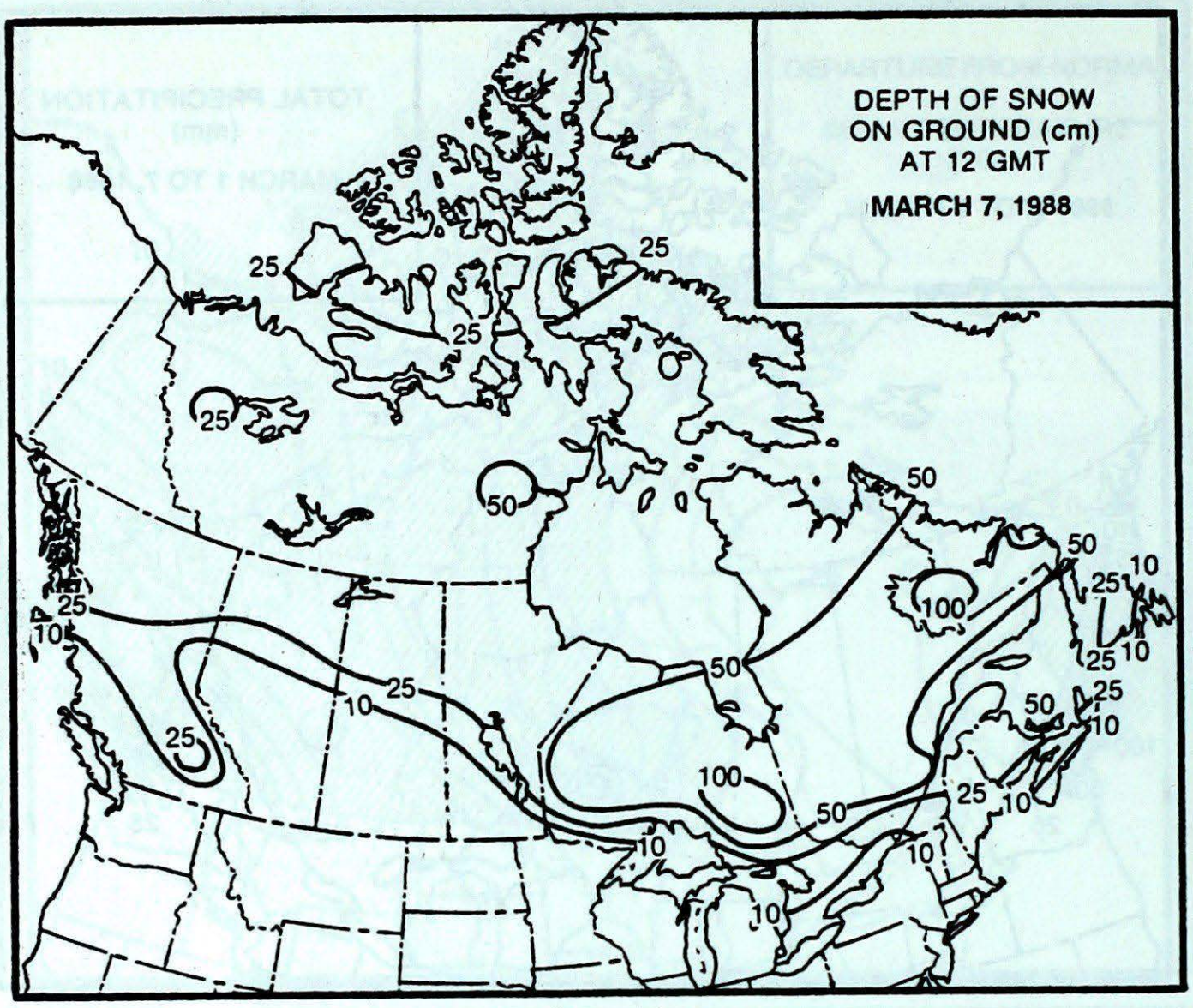
HEAVIEST WEEKLY PRECIPITATION (mm)

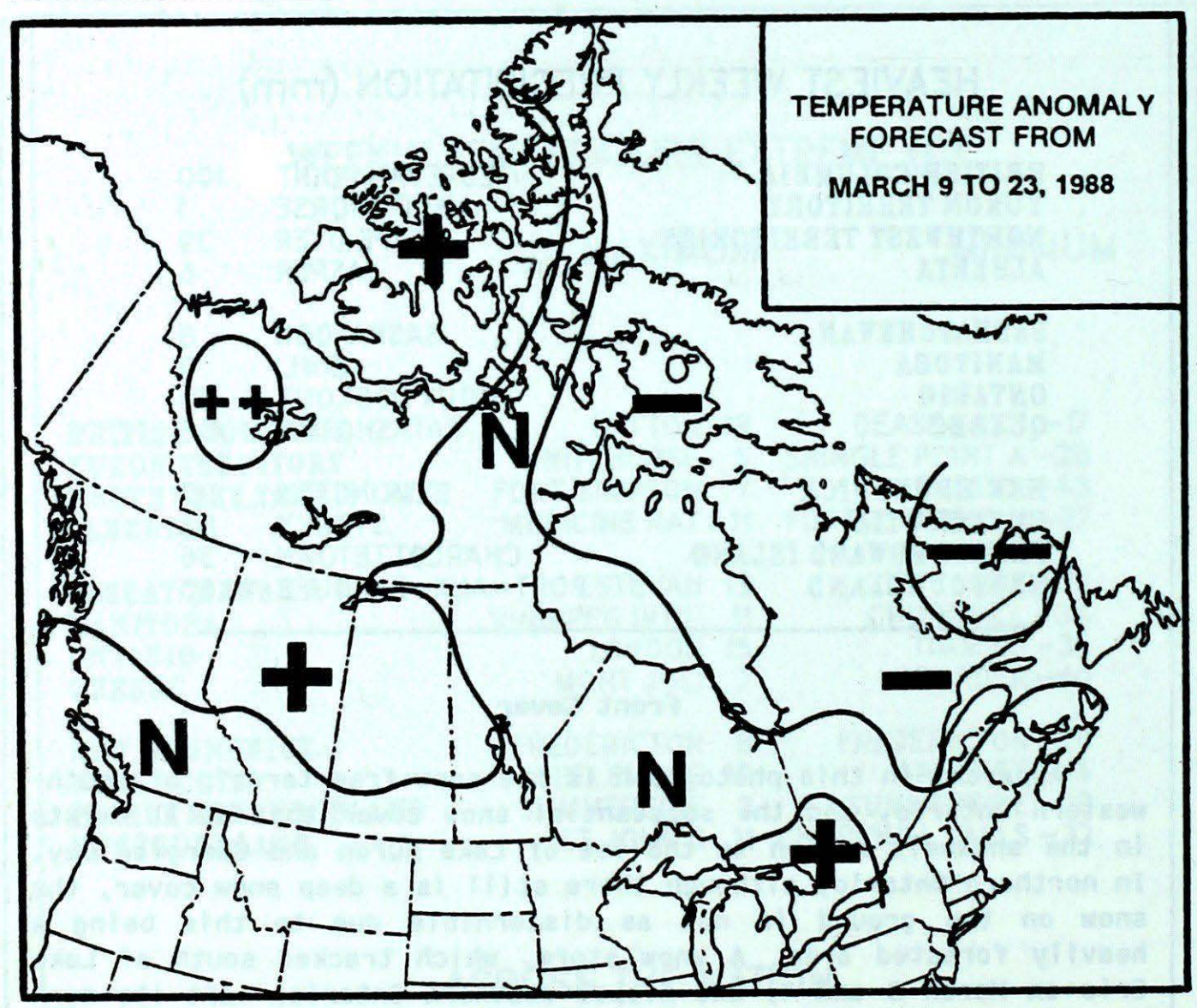
BRITISH COLUMBIA	ESTEVAN POINT	100
YUKON TERRITORY	WHITEHORSE	1
NORTHWEST TERRITORIES	CAPE DYER	39
ALBERTA	JASPER	6
SASKATCHEWAN	SASKATOON	8
MANITOBA	GIMLI	9
ONTARIO	SIOUX LOOKOUT	31
QUEBEC	NATASHQUAN	56
NEW BRUNSWICK	MONCTON	7
NOVA SCOTIA	SYDNEY	83
PRINCE EDWARD ISLAND	CHARLOTTETOWN	36
NEWFOUNDLAND	PORT-AUX-BASQUES	60

Front Cover

Apparent in this photograph is the snow-free terrain of southwestern Ontario, and the substantial snow cover that still exists in the snowbelt region to the lee of Lake Huron and Georgian Bay. In northern Ontario, although there still is a deep snow cover, the snow on the ground is not as discernible due to this being a heavily forested area. A snow storm, which tracked south of Lake Erie on March 3 and 4, and missed southern Ontario, left its mark as a band of snow stretching across southern Michigan and Ohio, eastwards towards the Appalachians. Due to a colder than normal February, the ice coverage on the Great Lakes expanded significantly in the last few weeks from that of January, but it is now showing signs of decay as it is being shifted by the prevailing winds.

FORECAST





Temperature Anomaly Forecast

This forecast is prepared by searching historical weather maps to find cases similar to the present. The historical outcome during the 15 days subsequent to the chosen analogues is assumed to be a forecast for the next 15 days from now.

++	much above normal
+	above normal
N	normal
-	below normal
--	much below normal

CLIMATIC PERSPECTIVES VOLUME 10

Managing Editor P.R. Scholefield
Editors-in-charge
weekly A.K. Radomski
monthly A. Shabbar
French A.A. Caillet
Data Manager M. Skarpathiotakis
Art Layout K. Czaja
Word Processing P. Burke/U. Ellis
Translation D. Pokorn
Cartography G. Young/T. Chivers

Regional Correspondents
Atlantic: F.Amirault; Que.: J.Miron
Ont.:B.Smith; Central: J.F. Bendell
Western: W.Prusak; Pac.: E.Coatta;
Yukon Weather Centre: J. Steele;
Frobisher Bay & Yellowknife Weather Offices; Newfoundland Weather Centre: G.MacMillan; Ice Central Ottawa
ISSN 0225-5707 UDC 551.506.1(71)

Climatic Perspectives is a weekly bilingual publication of the Canadian Climate Centre, Atmospheric Environment Service, 4905 Dufferin St., Downsview, Ont. Canada M3H 5T4. **Phone (416)739-4438/4436.**

The purpose of the publication is to make topical information available to the public concerning the Canadian Climate and its socio-economic impact.

Unsolicited articles are welcome but should be at maximum about 1500 words in length. They will be subject to editorial change without notice due to publishing time constraints. The contents may be reprinted freely with proper credit.

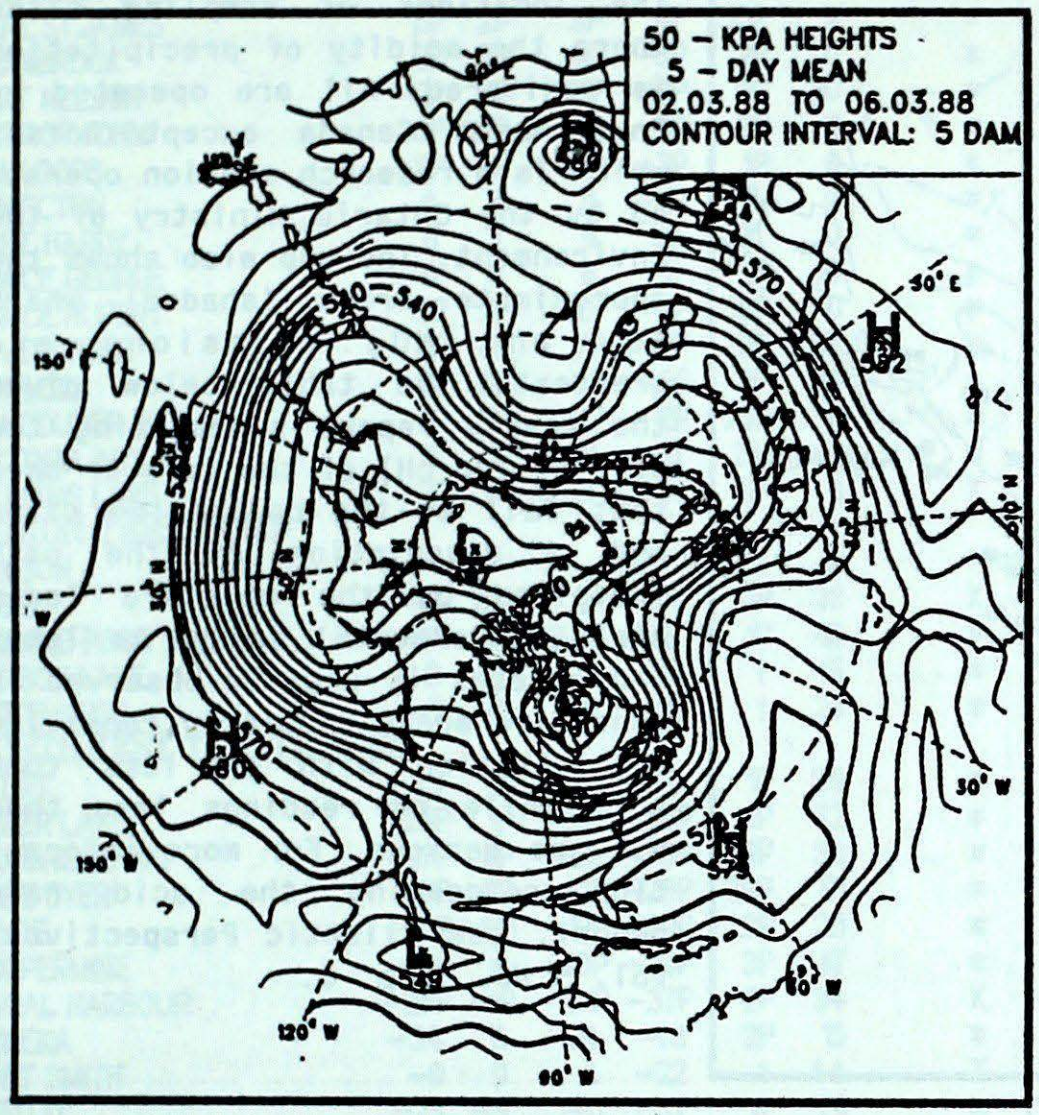
The data in this publication are based on unverified reports from approximately 225 Canadian synoptic weather stations. Information concerning climatic impacts is gathered from AES contacts with the public and from the media. Articles do not necessarily reflect the views of the Atmospheric Environment Service.

Annual Subscriptions

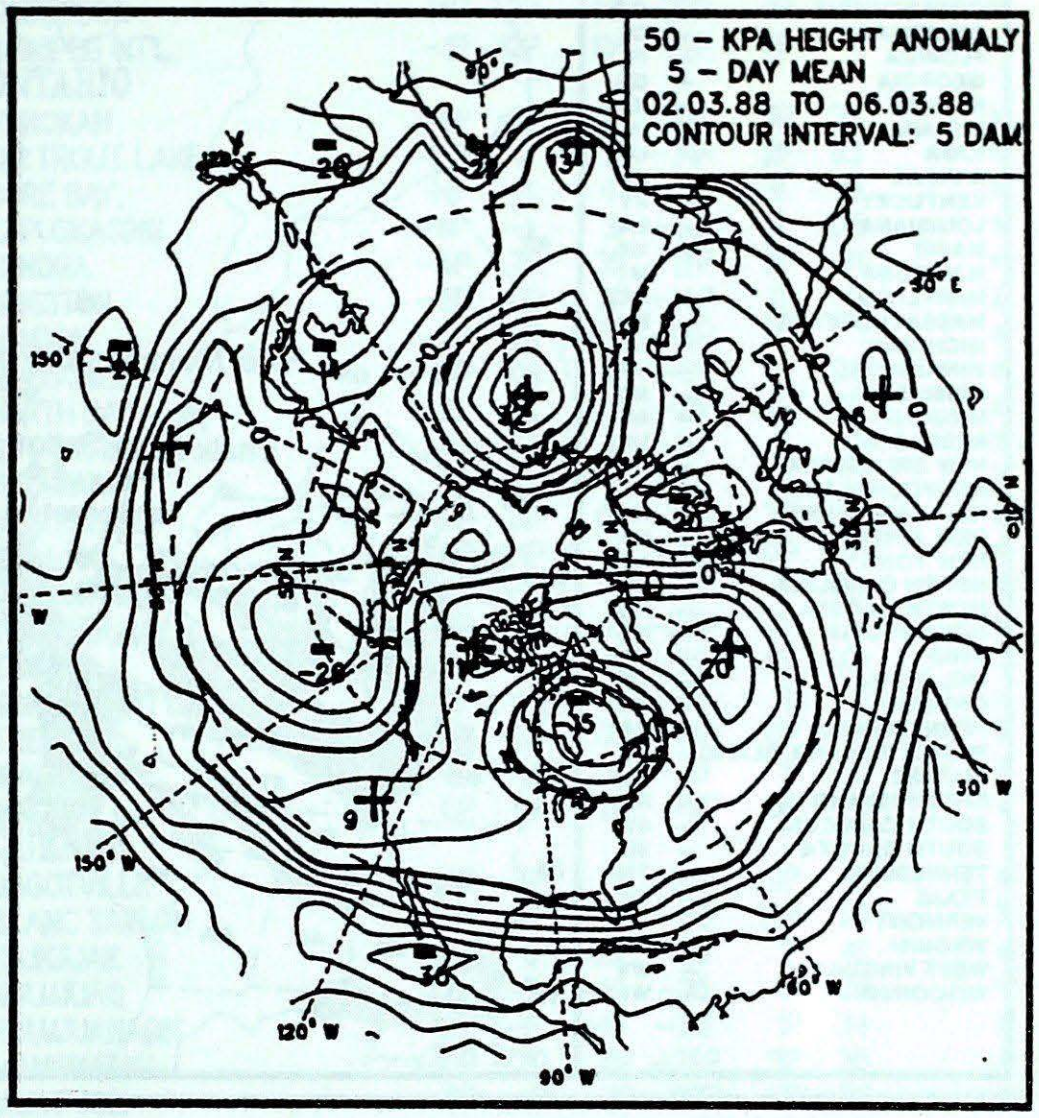
weekly & monthly supplement:	$35.00
foreign:	$42.00
Monthly issue:	$10.00
foreign:	$12.00

Orders must be prepaid by money order or cheque payable to Receiver General for Canada. **Canadian Government Publishing Centre, Ottawa, Ontario K1A 0S9** (613)994-1495

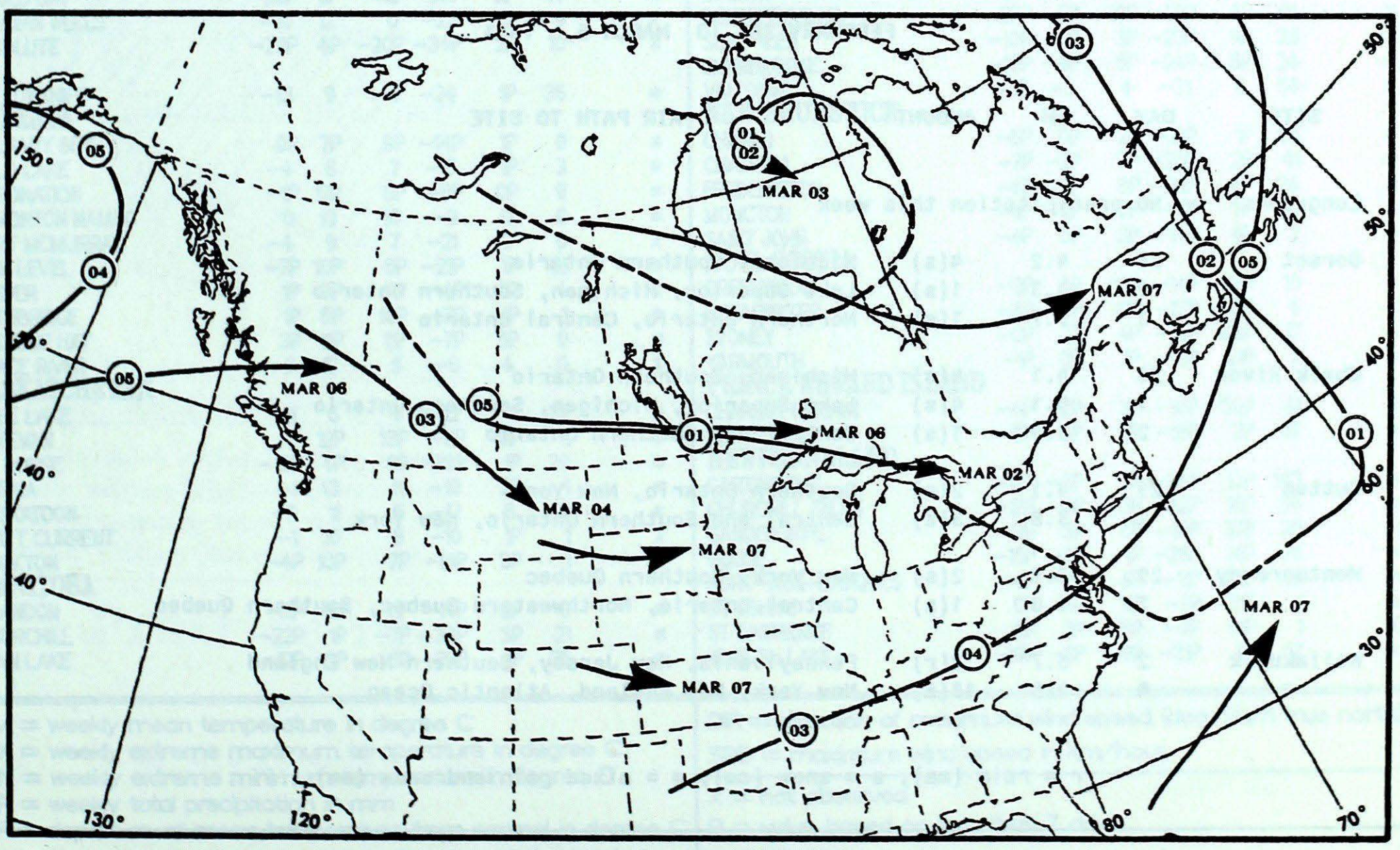
50 kPa ATMOSPHERIC CIRCULATION



Mean geopotential heights
50 kPa level (in decameter)



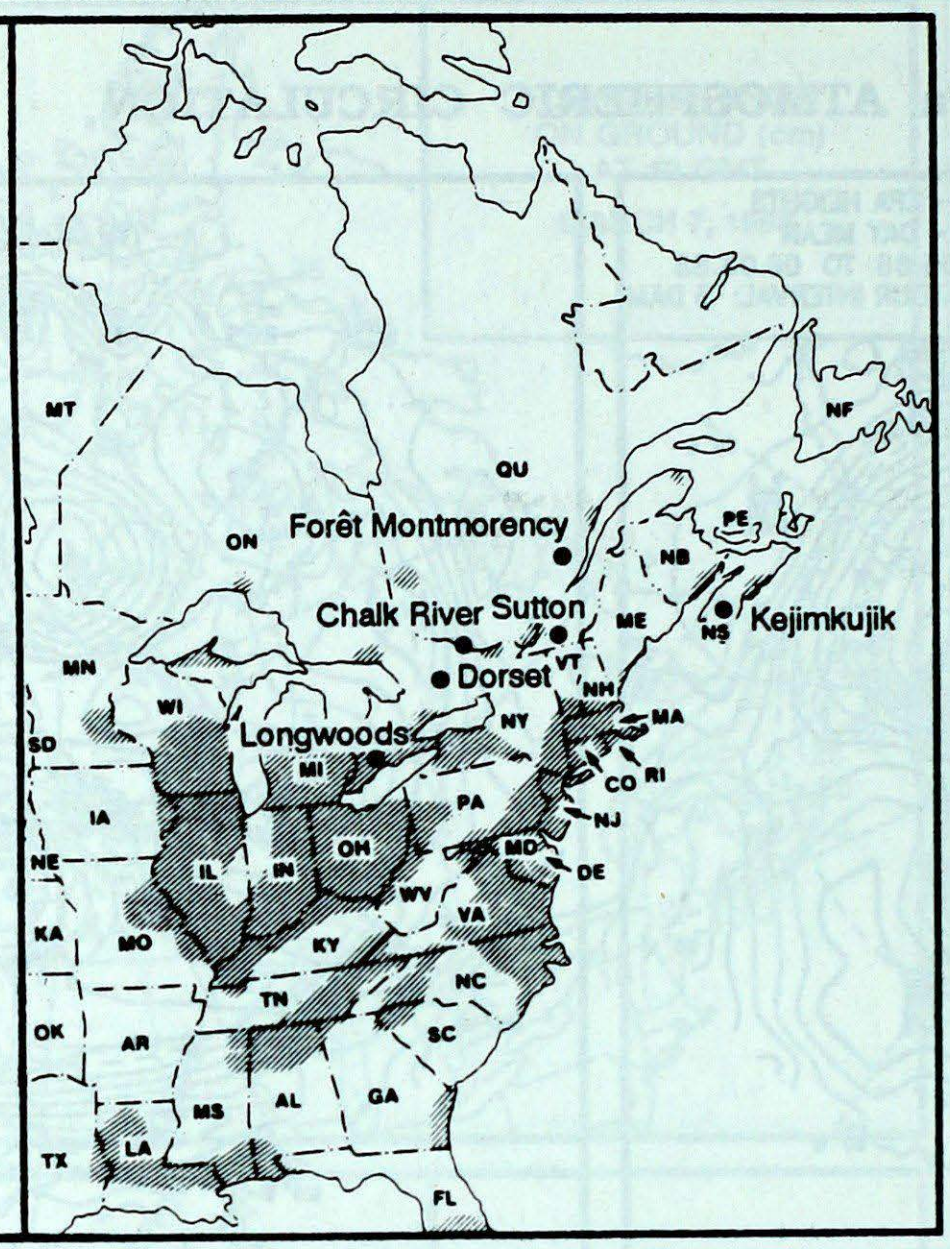
Mean geopotential height anomaly
50 kPa level (in decameter)



Storm track - Position of storm at 12 GMT during the period: March 1 to 7, 1988

ACID RAIN

ALABAMA	—	AL
ARKANSAS	—	AR
CONNECTICUT	—	CO
DELAWARE	—	DE
FLORIDA	—	FL
GEORGIA	—	GA
ILLINOIS	—	IL
INDIANA	—	IN
IOWA	—	IA
KANSAS	—	KA
KENTUCKY	—	KY
LOUISIANA	—	LA
MAINE	—	ME
MANITOBA	—	MT
MARYLAND	—	MD
MASSACHUSETTS	—	MA
MICHIGAN	—	MI
MINNESOTA	—	MN
MISSISSIPPI	—	MS
MISSOURI	—	MO
NEBRASKA	—	NE
NEW BRUNSWICK	—	NB
NEWFOUNDLAND	—	NF
NEW HAMPSHIRE	—	NH
NEW JERSEY	—	NJ
NEW YORK	—	NY
NORTH CAROLINA	—	NC
NORTH DAKOTA	—	ND
NOVA SCOTIA	—	NS
OHIO	—	OH
OKLAHOMA	—	OK
ONTARIO	—	ON
PENNSYLVANIA	—	PA
PRINCE EDWARD ISLAND	—	PE
QUÉBEC	—	QU
RHODE ISLAND	—	RI
SOUTH CAROLINA	—	SC
SOUTH DAKOTA	—	SD
TENNESSEE	—	TN
TEXAS	—	TX
VERMONT	—	VT
VIRGINIA	—	VA
WEST VIRGINIA	—	WV
WISCONSIN	—	WI



ACID RAIN REPORT

The reference map (left) shows the locations of sampling sites where the acidity of precipitation is monitored. All are operated by Environment Canada except Dorset which is a research station operated by the Ontario Ministry of the Environment. The map also shows the approximate areas (shaded) where SO_2 and NO_x emissions are greatest. The table below gives the weekly report summarizing the acidity (or pH) of the rain or snow that fell at the collection sites and a description of the path travelled by the moisture laden air. Environmental damage to lakes and streams is usually observed in sensitive areas regularly receiving precipitation with pH less than 4.7, while pH readings less than 4.0 are serious. For more information concerning the acid rain report, see Climatic Perspectives, Vol. 5 No. 50 p. 6.

FEBRUARY 28 TO MARCH 5, 1988

SITE	DAY	pH	AMOUNT	AIR PATH TO SITE
Longwoods	No precipitation this week			
Dorset	28	4.2	4(s)	Michigan, Southern Ontario
	1	4.3	1(s)	Lake Superior, Michigan, Southern Ontario
	2	3.7	1(s)	Northern Ontario, Central Ontario
Chalk River	28	4.1	4(s)	Michigan, Southern Ontario
	1	4.1	4(s)	Lake Superior, Michigan, Southern Ontario
	2	3.9	1(s)	Central and Southern Ontario
Sutton	29	4.1	2(s)	Southern Ontario, New York
	2	3.8	3(s)	Central and Southern Ontario, New York
Montmorency	29	3.9	2(s)	New York, Southern Quebec
	2	4.0	1(s)	Central Ontario, Northwestern Quebec, Southern Quebec
Kejimkujik	2	3.7	2(r)	Pennsylvania, New Jersey, Southern New England
	4	4.5	18(s)	New York, New England, Atlantic Ocean

r = rain (mm), s = snow (cm), m = mixed rain and snow (mm)

STATISTICS

TEMPERATURE, PRECIPITATION AND MAXIMUM WIND DATA FOR THE WEEK ENDING 0600 GMT MARCH 8,1988

STATION	TEMPERATURE				PRECIP.		WIND MX	
	AV	DP	MX	MN	TP	SOG	DIR	SPD
BRITISH COLUMBIA								
CAPE ST.JAMES	6P	2P	8P	4P	50P	*		*
CRANBROOK	3P	5P	9P	-5P	2P	0		*
FORT NELSON	-2P	11P	7P	-13P	0P	30		*
FORT ST.JOHN	0P	10P	6P	-9P	8P	3		*
KAMLOOPS	5P	4P	10P	-3P	1P	0		*
PENTICTON	4	3	11	-4	5	0		*
PORT HARDY	6	3	11	3	91	0		*
PRINCE GEORGE	0	*	6	-6	9	14		*
PRINCE RUPERT	5P	3P	12P	-2P	56P	0		*
REVELSTOKE	2P	4P	7P	-2P	10P	35		*
SMITHERS	2P	6P	6P	-6P	2P	29		*
VANCOUVER INT'L	7P	3P	12P	2P	25P	0		*
VICTORIA INT'L	6	2	11	0	25	0		*
WILLIAMS LAKE	2P	*	8P	-4P	3P	1		X
YUKON TERRITORY								
DAWSON						*		
MAYO	-4P	12P	3P	-16P	0P	26		X
SHINGLE POINT A	-15P	10P	-5P	-28P	1P	42		*
WATSON LAKE	-8	8	5	-26	1	46		*
WHITEHORSE	-3	8	5	-16	1	29		*
NORTHWEST TERRITORIES								
ALERT	-33	1	-25	-40	1P	39		*
BAKER LAKE	-29P	1P	-20P	-38P	1P	72		*
CAMBRIDGE BAY	-27P	6P	-19P	-38P	2P	30		*
CAPE DYER	-19P	5P	-10P	-28P	39P	81		*
CLYDE	-21P	8P	-12P	-29P	9P	28		*
COPPERMINE	-18P	*	-10P	-28P	3P	47		*
CORAL HARBOUR	-28P	-1P	-21P	-37P	2P	34		X
EUREKA	-34	6	-24	-43	2P	15		*
FORT SMITH	-9	9	4	-22	1	44		X
IQALUIT	-28	-3	-11	-37	3	29		*
HALL BEACH	-26	5	-16	-35	3	34		*
INUVIK	-16	10	-5	-24	1	43		X
MOULD BAY	-29P	6P	-16P	-38P	2P	14		X
NORMAN WELLS	-10	12	0	-22	0	9		X
RESOLUTE	-29P	4P	-20P	-34P	2P	10		*
YELLOWKNIFE	-13	9	-3	-24	1P	35		*
ALBERTA								
CALGARY INT'L	0P	7P	9P	-14P	1P	0		*
COLD LAKE	-4	8	7	-15	1P	3		*
CORONATION	-1P	12P	8P	-8P	0P	0		*
EDMONTON NAMAO	0	10	10	-9	0	0		*
FORT MCMURRAY	-4	9	7	-21	2	0		X
HIGH LEVEL	-7P	10P	5P	-21P	1P	42		*
JASPER	1P	7P	7P	-4P	6P	4		X
LETHBRIDGE	1P	8P	10P	-7P	1P	1		*
MEDICINE HAT	3P	11P	11P	-7P	5P	0		*
PEACE RIVER	0	12	5	-8	4	0		*
SASKATCHEWAN								
CREE LAKE	-11	6	4	-32	1	32		*
ESTEVAN	1P	12P	13P	-11P	0P	1		*
LA RONGE	-10P	4P	6P	-28P	1P	29		*
REGINA	-1	13	11	-10	7P	1		*
SASKATOON	-3	11	5	-12	8	*		*
SWIFT CURRENT	-1	10	8	-10	1P	1		X
YORKTON	-4P	10P	7P	-14P	3P	1		*
MANITOBA								
BRANDON	-3P	11P	11P	-14P	2P	0		*
CHURCHILL	-22P	1P	-7P	-34P	3P	21		*
LYNN LAKE	-12P	5P	3P	-29P	1P	35		*

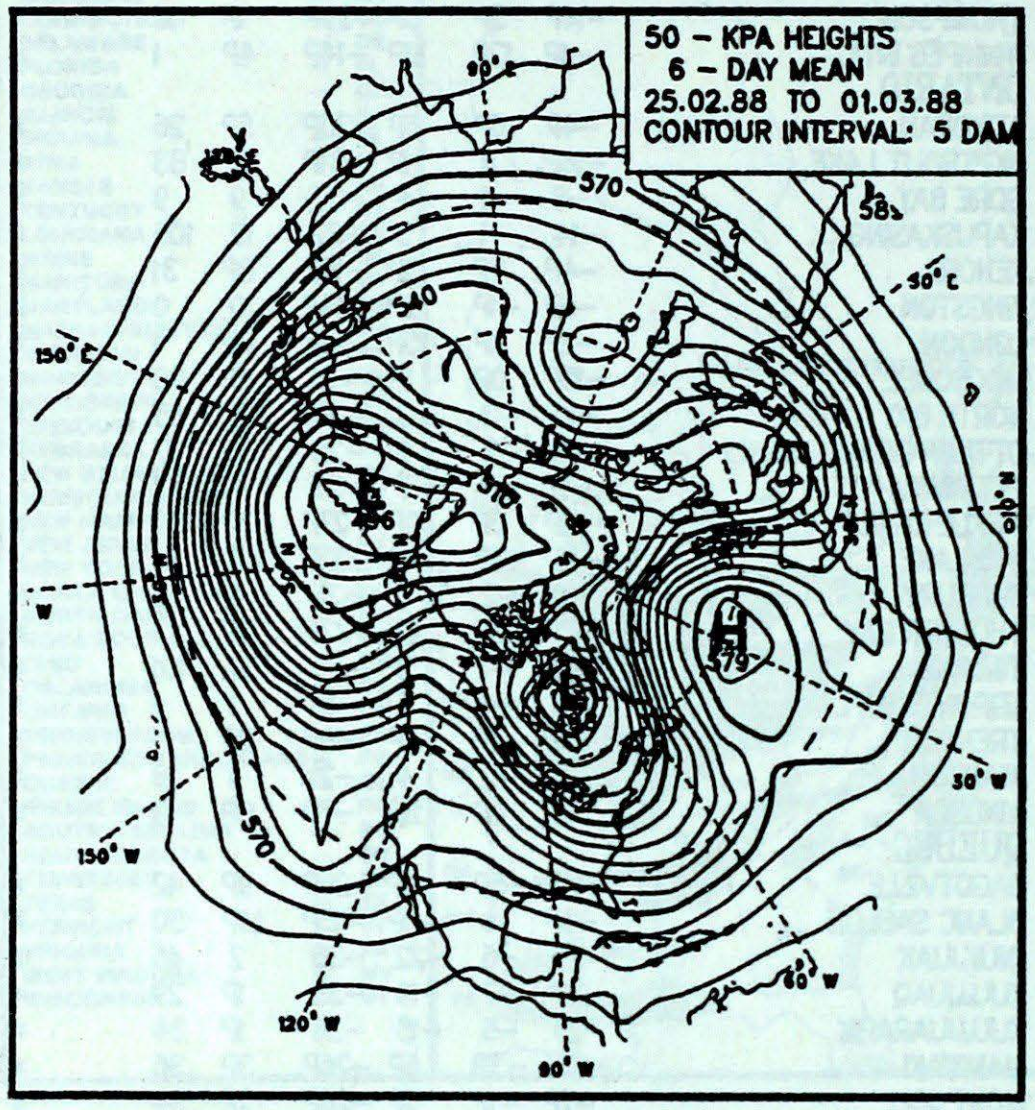
STATION	TEMPERATURE				PRECIP.		WIND MX	
	AV	DP	MX	MN	TP	SOG	DIR	SPD
THE PAS	-7P	*	5P	-27P	0P	8		*
THOMPSON	-14P	3P	5P	-29P	1P	16		*
WINNIPEG INT'L	-1P	12P	11P	-14P	4P	1		*
ONTARIO								
ATIKOKAN	-4P	6P	5P	-20P	5P	26		*
BIG TROUT LAKE	-16P	*	1P	-31P	2P	83		*
GORE BAY	-8	-1	4	-27	9	9		*
KAPUSKASING	-14	-1	3	-32	12	105		*
KENORA	-4P	7P	3P	-14P	8P	31		*
KINGSTON	-5P	-1P	2P	-14P	0	0		X
LONDON	-2P	1P	15P	-14P	0P	1		*
MOOSONEE	-15P	0P	1P	-31	5	98		*
NORTH BAY	-10	-3	3	-26	6	55		*
OTTAWA INT'L	-8	-3	4	-20	2	17		X
PETAWAWA	-11	-5	7	-27	4	32		X
PICKLE LAKE	-12P	3P	0P	-27P	7P	59		*
RED LAKE	-11P	1P	1P	-22P	10P	61		*
SUDBURY	-10	-2	3	-26	4	68		X
THUNDER BAY	-7P	3P	6P	-23P	7P	1		*
TIMMINS	-12	-1	3	-35	10	101		*
TORONTO INT'L	-3	-1	6	-16	1	1		*
TRENTON	-5P	-2P	7P	-18P	0P	1		X
WIARTON	-7	-2	4	-21	1	18		X
WINDSOR	0P	0P	11P	-7P	0P	0		*
QUEBEC								
BAGOTVILLE	-14P	-5P	1P	-25P	9P	42		*
BLANC SABLON	-9P	*	-1P	-15P	14P	50		X
INUKJUAK	-29	-6	-22	-35	2	45		*
KUUJJUAQ	-27	-7	-19	-35	1P	29		*
KUUJJUARAPIK	-25	-5	-15	-36	1P	34		*
MANIWAKI	-10P	-3P	6P	-26P	3P	36		*
MONT JOLI	-7P	-1P	7P	-20P	2P	34		*
MONTREAL INT'L	-8	-4	4	-17	2	2		*
NATASHQUAN	-8P	0P	3P	-18P	56P	29		*
QUEBEC	-10P	-4P	2P	-20P	4P	97		*
SCHEFFERVILLE	-22P	-5P	-10P	-40P	4P	65		*
SEPT-ILES	-10P	-2P	3P	-23P	9P	28		*
SHERBROOKE	-10P	-4P	5P	-24P	5P	24		*
VAL D'OR	-13	-3	4	-31	4	56		*
NEW BRUNSWICK								
CHARLO	-8P	0P	2P	-19P	1P	65		*
CHATHAM	-7P	-2P	7P	-20P	2P	41		*
FREDERICTON	-6P	-2P	8P	-20P	6P	24		*
MONCTON	-6P	-2P	7P	-17P	7P	25		*
SAINT JOHN	-4P	0P	3P	-14P	4P	7		*
NOVA SCOTIA								
GREENWOOD	-2P	0P	10P	-14P	13P	10		*
SHEARWATER	-3P	-1P	6P	-13P	48P	4		*
SYDNEY	-2P	1P	4P	-14P	83P	17		*
YARMOUTH	-1P	0P	7P	-8P	21P	2		*
PRINCE EDWARD ISLAND								
CHARLOTTETOWN	-6P	-2P	3P	-16P	36P	41		*
SUMMERSIDE	-5P	-2P	3P	-18P	3P	67		*
NEWFOUNDLAND								
CARTWRIGHT	-12P	-3P	3P	-24P	12P	143		*
CHURCHILL FALLS	-17P	0P	-3P	-32P	18P	114		*
GANDER INT'L	-2P	3P	6P	-10P	37P	20		*
GOOSE	-15P	-4P	-1P	-26P	16P	76		*
PORT-AUX-BASQUES	-4P	-1P	4P	-11P	60P	29		*
ST JOHN'S	0P	3P	11P	-7P	31P	1		*
ST LAWRENCE	0P	3P	8P	-9P	51P	1		X
WABUSH LAKE	-19P	-2P	-9P	-31P	4P	67		*

AV = weekly mean temperature in degree C
MX = weekly extreme maximum temperature in degree C
MN = weekly extreme minimum temperature in degree C
TP = weekly total precipitation in mm
DP = departure of mean temperature from normal in degree C
SOG = snow depth on ground in cm, last day of the period

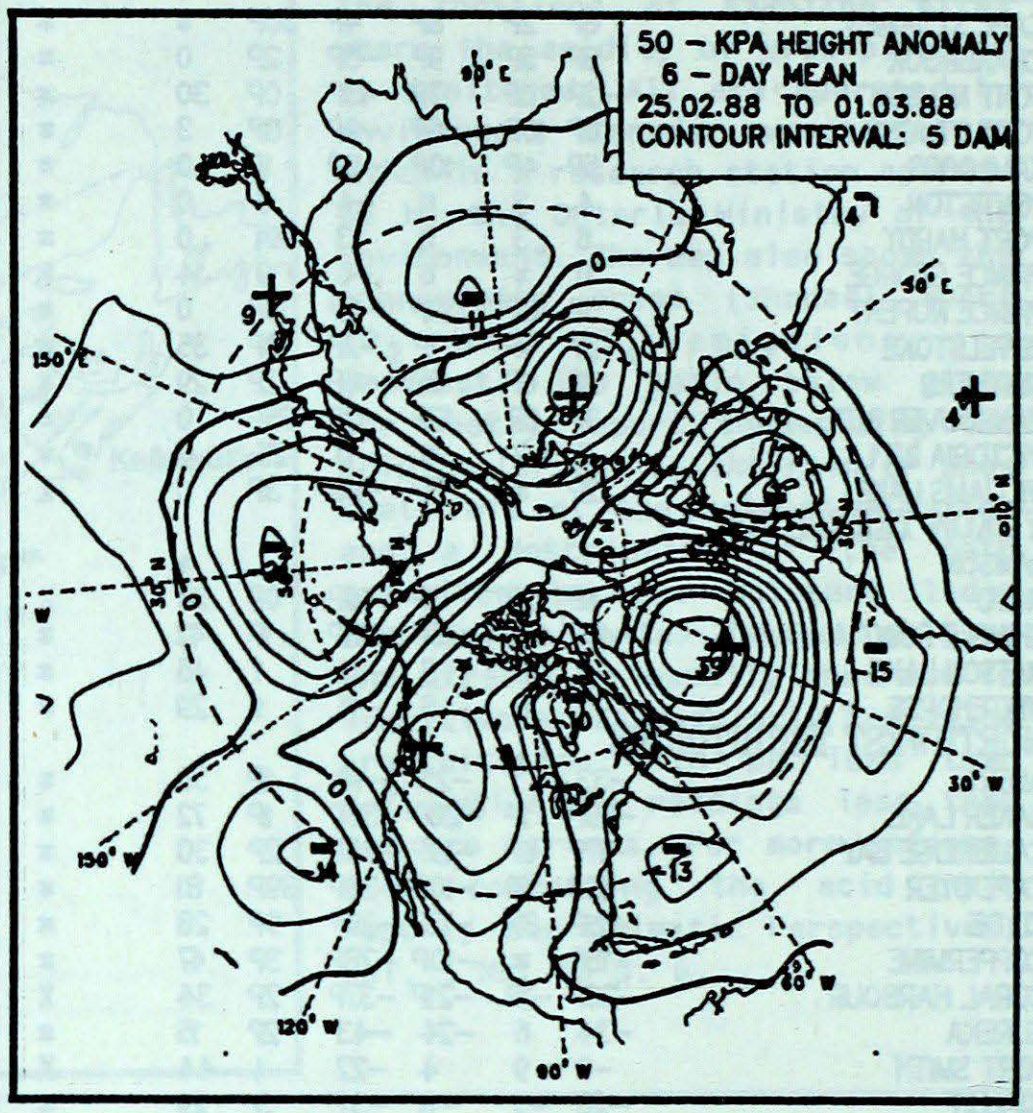
DIR = direction of maximum wind speed (deg. from true north)
SPD = maximum wind speed in km/hour

X = not observed
P = value based on less than 7 days
* = missing

50 kPa ATMOSPHERIC CIRCULATION



Mean geopotential heights
50 kPa level (in decameter)



Mean geopotential height anomaly
50 kPa level (in decameter)